



- (51) **International Patent Classification?** **H04L 1/16,**
H04Q 7/38

(21) **International Application Number:**
PCT/JP2004/015650

(22) **International Filing Date:** 15 October 2004 (15.10.2004)

(25) **Filing Language:** English

(26) **Publication Language:** English

(30) **Priority Data:**
2003905712 17 October 2003 (17.10.2003) AU

(71) **Applicant (for all designated States except US):** NEC
CORPORATION [JP/JP]; 7-1, Shiba 5-chome, Mi-
nato-ku, Tokyo 108-8001 (JP).

(72) **Inventor; and**

(75) **Inventor/Applicant (for US only):** NGUYEN, Phong

[AU/AU]; c/o NEC Australia Pty. Ltd., 635 Fernree Gully
Road, Glen Waverley, VIC 3150 (AU).

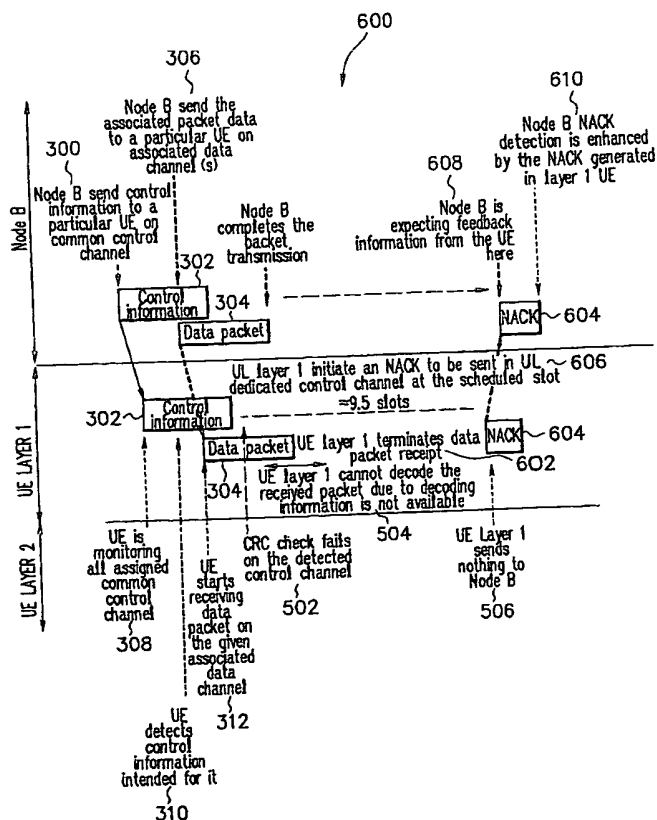
(74) **Agent:** MARUYAMA, Takao; Maruyama Patent Office,
SAM Build., 3 Floor, 38-23, Higashi-Ikebukuro 2-chome,
Toshima-ku, Tokyo 170-0013 (JP).

(81) **Designated States (unless otherwise indicated, for every
kind of national protection available):** AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) **Designated States (unless otherwise indicated, for every
kind of regional protection available):** ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,

[Continued on next page]

- (54) Title:** ARQ CONTROL IN AN HSDPA COMMUNICATIONS SYSTEM



(57) Abstract: A method of Automatic Repeat reQuest (ARQ) control in a High Speed Downlink Packet Access (HSDPA) communication system. The method includes transmitting (300) control information from a first station to a second station; commencing receipt (312) of the control information at the second station; checking (502) whether the control information was received with error; and if so, generating (604) a negative acknowledgment (NACK) message for transmission to the first station. The control information error checking and acknowledgment message generating is performed at the second station by carrying out processing operations within radio interface layer 1 (UE layer 1).



ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

— before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*